Spring 2020

The Development, Implementation, and Evaluation of a Sexual Assault Nurse Examiner Training Program

Shantee Henry
shanteehenry@hotmail.com

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Georgia College and State University, School of Nursing

Capstone Chair:	Dr. Josie Doss
Capstone Committee Member:	Dr. Monica Ketchie
Capstone Committee Member:	Dr. Jennifer Graham
Date of Submission:	May 6, 2020

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Abstract

Sexual assault is a growing concern in the United States. Appropriate care of its survivors is essential to controlling the short and long-term effects of this trauma. A sexual assault nurse examiner (SANE) is a registered nurse that acquires additional training specializing in the comprehensive care of sexual assault survivors. Research indicates that there are not enough SANEs to provide coverage for the increasing number of sexual assaults, especially in rural areas. To increase the number of certified SANEs in rural areas, the Health Resources and Services Administration (HRSA) of the U.S. government provided funds through a grant that was awarded to a university in middle Georgia. The focus of this paper is the design and evaluation of one portion of the SANE training program, the clinical skills immersion. Twenty-four trainees participated in the study to answer the question, "What is the effect of a 3-day clinical skills immersion on SANE participants' knowledge, competence level, and self-efficacy?" A paired samples *t*-test revealed that there was no significant change in knowledge in a post-training exam (M = 55.3, SD = 6.24) compared to the same pre-training exam (M = 55.9, SD = 6.34), t (23) = 0.54, p = .592 (CI -1.87 – 3.20). Competence levels were all proficient or exceeded proficient. A paired samples t-test indicated a significant change in self-efficacy from baseline (M = 27.97, SD = 8.96) to post- training (M = 43.2, SD = 12.73), t (19) = -6.7, p < .001 (CI -19.98 - -10.47), based on an 8-item Likert scale survey of confidence with performing forensic nursing skills. Results of the knowledge scores may have been influenced by the construct of exam questions (select all that apply), and by differing state laws and practices.

Keywords: sexual assault, sexual assault nurse examiner, education, simulation, standardized patients, self-efficacy, self-confidence, clinical training, competence

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Introduction

The Office on Women's Health defines sexual assault as "any type of sexual activity or contact that you do not consent to" (Sexual Assault, 2018). The Centers for Disease Prevention and Control (CDC) further defines sexual violence as "a sexual act that is committed or attempted by another person without freely given consent of the victim or against someone unable to consent or refuse" (Basile, Smith, Breiding, Black & Mahendra, 2014). Rape is defined as "any completed or attempted unwanted vaginal (for women), oral, or anal penetration through the use of physical force (such as being pinned or held down, or by the use of violence) or threats to physically harm and incudes times when the victim was drunk, high, drugged, or passed out and unable to consent" (Smith et al., 2018). The 2015 National Intimate Partner and Sexual Violence Survey (NISVS) reported that nearly 1 in 5 women and 1 in 38 men have experienced either completed or attempted rape. Additionally, more than 1 in 3 women and nearly 1 in 4 men have experienced contact sexual violence at some point in their lives (Smith et al., 2018).

Sexual Assault Nurse Examiners (SANEs) are registered nurses who have received specialized training to care for sexual assault victims. Training consists of focused education and clinical preparation in the field of medical forensics (SANEs, n.d.). Because SANEs offer a holistic approach to providing health care, they are well suited to support those affected by the trauma of sexual assault. They serve as the link between health care services and the legal system. The SANE documents the victim's history of the assault and forensic exam findings, collects forensic evidence and maintains chain of custody. They interpret findings and serve as a

fact or expert witness during court proceedings, all while addressing the immediate and culturally diverse needs of sexual assault victims in a caring and compassionate manner.

Despite the presence of substantial evidence that supports the need for this specialized nursing practice, there remains a shortage of nurses to fill these roles. According to the International Association of Forensic Nurses (IAFN) - the only entity that offers certification for SANEs – the actual number of trained SANEs in the nation or the state of Georgia is unknown. Though certification is not required to practice, as of October 2019, the IAFN reported a total of 1,732 certified SANEs in the world, with 1,230 certified in adults/adolescents and 502 certified in pediatrics (SANE Certification Central - IAFN, 2019). Included in this total are 18 certified SANEs in Georgia. At the initiation of this project, there were only two trained SANEs in Baldwin County, far below the number necessary to provide 24/7 on-call services for this community.

The IAFN has written the *Forensic Nursing: Scope and Standards of Practice*, as well as the *Sexual Assault Nurse Examiner Education Guidelines* (History of IAFN - International Association of Forensic Nurses, 2019). The IAFN education guidelines identify three distinct components of SANE training – didactic content, clinical training, and clinical practice. Limited access to clinical experiences is identified as a significant contributor to the shortage of SANE-trained clinicians, especially in rural communities. This training initiative was designed to offer an accessible, cost-effective opportunity for nurses who have completed didactic training to practice clinical skills. The IAFN guidelines were the foundation for the development and design of this program. Other resources included the Academy of Forensic Nursing (AFN), the Georgia Criminal Justice Coordinating Council (CJCC), and a host of experienced SANE coordinators and experts throughout the country.

The overall program consisted of three distinct sections, a 41-hour online didactic course, a 3-day skills training lab, and mentored clinical experiences totaling up to 300 practice hours. The 3-day clinical skills immersion was the basis of this DNP project. This training was developed, implemented, and evaluated by the principal investigator, incorporating the education guidelines and outcomes established by the IAFN. The intent of the project was to implement and evaluate a sustainable, evidence-based, sexual assault nurse examiner, clinical skills training program.

Background and Significance

The shortage of SANEs has a detrimental effect on patients, staff, and the healthcare system as a whole. Many emergency department medical providers lack specialized training in forensic evidence collection or may not conduct forensic exams frequently enough to maintain proficiency. Sexual assault survivors who seek post-assault care from medical providers who lack specialized training often experience long wait times and receive inadequate services. Evidence collection from inexperienced personnel often results in lower prosecution rates. In addition, inconsistent treatment may contribute to a higher incidence of short- and long-term mental health issues, including depression, flashbacks, and post-traumatic stress disorder (PTSD). Families, acquaintances, and entire communities are affected by the occurrence of sexual assault and the lasting impacts that it presents.

The lack of SANEs presents a greater burden on hospital emergency rooms because of limited training and the number of hours required to complete a medical forensic exam. This increase in time and the strain it places on staffing impacts the hospital system financially. Besides the challenges faced by hospital emergency rooms, without a sufficient pool of practicing SANEs, freestanding sexual assault centers are unable to provide care to their full

potential. Practicing SANEs are frequently on call for their services, which contributes to burnout.

Problem

From 1990 to 2015, the U.S. saw a longstanding general trend of declining violent crime. The 2018 National Crime Victimization Survey (NCVS) reported an increase in the number of violent crime victims age 12 or older from 2.7 million in 2015 to 3.3 million in 2018 (Morgan & Oudekerk, 2019). In this same report, the rate of rape or sexual assault increased from 1.4 per 1,000 persons age 12 and older in 2017 to 2.7 per 1,000 in 2018. Despite this increase, the percentage of rape or sexual assault victimizations reported to police declined from 40% in 2017 to 25% in 2018 (Morgan & Oudekerk, 2019). Only 20% of college-age female students report sexual assault to police compared to 32% non-students of the same age group (The Criminal Justice System: Statistics, n.d.). Reasons for not reporting include fear of reprisal, believing police would not help or could not do anything to help, believing it was a personal matter, not wanting to get the perpetrator in trouble, or believing it was not important enough to report (Sinozich & Lanston, 2014). With the continued upward trend of sexual assault cases paired with the added dilemma of underreporting, the number of victims not receiving adequate care continues to rise.

The incidence of sexual assault and the lack of support services in the United States has attracted national attention. In 2014, President Barack Obama formed a task force to address the growing concern and launched two public awareness campaigns. The “It’s On Us” campaign focused on increasing the conversation on sexual assault prevention by engaging and training the next generation of student organizers to disseminate large-scale initiatives (The White House: Office of the Press Secretary, 2014). The website, NotAlone.gov, was established to provide

resources for college and university campuses, schools, and anyone interested in learning how to prevent and respond to sexual assault (The White House, 2019).

In 2018, the Health Resources and Services Administration (HRSA) provided funding to support the training of additional SANEs with the aim of increasing the number of trained and certified SANEs in rural communities. In response to this need, Dr. Josie Doss of Georgia College and State University's School of Nursing applied for and was awarded the Advanced Nursing Education – Sexual Assault Nurse Examiner (ANE-SANE) grant in October 2018. The university offered a unique perspective to administering the grant funds because of its expertise in academia and curriculum development, and the variety of resources available through the university system. With its multiple graduate degree nursing programs, the marketing and recruitment potential for ANE-SANE program participants was significant. Another invaluable resource was the newly established, technologically sophisticated Georgia College and State University School of Nursing Simulation and Translational Research Center (GC SON STRC), which would serve as the potential site for clinical training. Upon securing the funds, the first step in fulfilling the purpose of the grant was to develop and implement an evidence-based SANE training program.

Clinical Questions

The SANE training program consisted of three distinct parts. First, didactic education was offered as a standardized unit from two different agencies. The second part of the program, and the focus of this project, was an in-person training designed for participants to practice and demonstrate competency in skills required to perform a complete medical forensic exam. The final part of training, clinical practice, involved connecting trainees with practicing SANEs to observe and perform complete medical forensic exams for sexual assault victims.

For this project, the PI developed, implemented, and evaluated a 3-day clinical skills immersion. The clinical training content was comprised of the skills needed to perform a sexual assault medical forensic exam and was based on the IAFN education guidelines. The three clinical questions that emerged were:

- What is the effect of a 3-day clinical skills training immersion on SANE participants' knowledge?
- What is the effect of a 3-day clinical skills training immersion on SANE participants' competence level?
- What is the effect of a 3-day clinical skills training immersion on SANE participants' self-efficacy?

Review of Literature

Sexual Assault

The extent of sexual assault as a healthcare problem is difficult to determine, partly due to the multiple definitions, but mostly because many sexual assaults are unreported. The legal definition of sexual assault varies throughout the literature and from state to state. Common threads include the phrases "sexual contact," "unwanted behavior," "without consent," and "incapable of giving consent" (Rape and Sexual Violence, 2019; Sexual Assault, 2018; Sexual Assault, 2019; Sexual Violence, 2019). Elaboration of the definition describes a range of behaviors from coercion or intimidation to rape. Examples include fondling, voyeurism, exhibitionism, forcing someone to pose for sexual pictures, or sending someone unwanted texts or "sexts," or texting sexual photos or messages (Rape and Sexual Violence, 2019; Sexual Assault, 2018).

The prevalence and incidence of sexual assault are measured by surveys and criminal justice reports, both of which are directly affected by unreported events. The 2018 Bureau of Justice Statistics' National Crime Victimization Survey (NCVS) revealed that the rate of violent victimizations not reported to police continued to increase, while the rate of reported victimizations showed no statistically significant change. This annual self-reported survey also revealed that from 2015 to 2018, the rate of rape or sexual assault increased from 1.6 to 2.7 per 1,000 persons age 12 or older. The prevalence or percentage of persons who experienced rape or sexual assault increased from 0.08% to 0.13% (Morgan & Oudekerk, 2019). According to the National Intimate Partner and Sexual Violence Survey (NISVS) 2015 Data Brief, 43.6% (nearly 52.2 million) of women in the United States experienced some form of contact sexual violence in their lifetime (Smith et al., 2018). The NISVS' measurement of sexual violence includes rape, being made to penetrate someone else, sexual coercion, and unwanted sexual contact (Smith et al., 2018). The survey reported that about 1 in 5 (21.3% or an estimated 25.5 million) women experienced either attempted or completed rape. Additionally, 16% (or an estimated 19.2 million) women experienced sexual coercion, and 37% (or approximately 44.3 million) experienced unwanted sexual contact.

Sexual violence affects an astounding number of men as well. In the U.S., 24.8% (27.6 million) of men experienced some form of contact sexual violence in their lifetime. According to this same report, 1 in 14 men (7.1% or 7.9 million) was made to penetrate someone else, 2.6% (2.8 million) men were victims of completed or attempted rape, 1 in 10 men (9.6% or 10.6 million) experienced sexual coercion, and 17.9% (approximately 19.9 million) men reported unwanted sexual contact at some point in their lifetime (Smith et al., 2018).

The prevalence of sexual assault (SA) on college campuses is higher than in the general population. As many as 20% of women, 13 % of men, and nearly half of LGBTQ students will experience some form of sexual assault during their college careers, and greater than 90% of these cases are unreported (Andar, 2014; Filak, 2009; Krebs, Lindquist, Warner, Fisher & Martin, 2007). More recent studies that clarify the various terminologies of sexual assault continue to show a high prevalence, particularly in Blacks and non-binary students (Morgan & Oudekerk, 2019; Mellins et al., 2017; Westat, 2019).

Effects

Each survivor of sexual assault reacts in a unique way. Past experiences, culture, and the context of one's being can influence the wide range of reactions that victims experience. The trauma of sexual assault can elicit both short- and long-term effects for the victim. The most common psychological outcomes are depression, post-traumatic stress disorder (PTSD), and flashbacks (Morgan & Oudekerk, 2019). Emotionally, survivors may feel guilt, shame, embarrassment, fear, distrust, isolation, shock, and even anger. Morgan and Oudekerk (2019) indicate that it is expected for survivors to have feelings of sadness and hopelessness, but if they persist for an extended period, it may be indicative of depression. Victims may have flashbacks of the past trauma that are triggered by ordinary experiences. These can be managed with deliberate steps of deep breathing and recognition of warning signs, but if they are not managed and become frequent, it could be an indicator of PTSD. Sexual violence may affect how survivors perceive their bodies, leading to eating disorders or self-harm. They may experience changes in sleeping habits, including trouble falling asleep, staying asleep, or sleeping for longer or shorter than usual (Morgan & Oudekerk, 2019). They may have nightmares, phobias, anxiety, and difficulty concentrating (National Sexual Violence Resource Center [NSVRC], 2010).

Families, friends, and coworkers may experience the same emotions and psychological effects of trauma as that of the victim. Even communities feel the effects of sexual violence. The experience can elicit fear or disbelief that incites financial costs for medical services, criminal justice expenses, and mental health services (NSVRC, 2010). The SANE is versed in the neurobiology of trauma and understands the gravity to which the victim and those around them are impacted. The training that SANEs receive about trauma-informed care helps them to provide care that can minimize the emotional effect of this trauma.

The physical impact varies greatly from case to case. Trauma (i.e. bruising, lacerations, broken bones etc.), sexually transmitted infections, and pregnancy are physical outcomes that can impact a sexually assaulted person. Women who are sexually assaulted by their intimate partner experience more frequent moderate-to-severe injuries than other women (Zilkins et al., 2017), and are at a greater risk of non-fatal strangulation (Zilkens et al., 2016).

Research shows a strong correlation between victims of sexual violence and poor mental health (Tarzia et al., 2018; Pico-Alfonso et al, 2006; WHO, 2013; Chen et al., 2010), including anxiety, depression, and post-traumatic stress disorder (PTSD) (Chen et al., 2010). Individuals who have experienced sexual assault have a higher incidence of substance abuse and suicide (Morgan & Oudekerk, 2019). A study by Santaularia et al. (2014) indicated that sexual violence is linked to several adverse health behaviors including heavy drinking, obesity, smoking, HIV risk factors, and high cholesterol. A link was also made to chronic health conditions such as disability, heart disease, diabetes, cancer, stroke, and asthma. The study also revealed that women who experienced sexual violence had a higher incidence of mental health conditions including depression, anxiety, and suicide ideation.

Potter, Howard, Murphy, and Moynihan (2018) studied the long-term effects of college sexual assault on women survivors' education and career attainments. They looked specifically at the impact on the survivors' college education experience, the impact on their experience in the job market, and the impact on their physical, mental, and reproductive health. In the first category, they found that many of the women left school, changed majors, dropped GPAs, and even dropped plans to attend graduate school. Others withdrew from social events. In the category of the job market, survivors had perceived underachievement, and some lost their jobs due to stress-related health problems or consequences from drug habits. The third category of health revealed that 72.8% reported mental health complications. Others reported sexually transmitted infections acquired during the assault, and some described insecurities with gynecological exams (Potter et al., 2018).

The financial consequence can also be overwhelming. In 2014, the National Center for Injury Prevention and Control, Centers for Disease Control and Prevention estimated the lifetime cost of rape was $122,461 per victim. This estimate included medical expenses, lost work productivity, criminal justice activities, and victim property loss or damage (Peterson, DeGue, Florence, & Lokey, 2017).

To effectively cope with the devastating aftermath of sexual assault, and avoid the risk of re-traumatization, victims should receive attention from individuals trained to provide trauma-informed care. This structured response emphasizes psychological, emotional, physical and financial wellbeing not only for the consumers but for the providers as well. The goal of trauma-informed care is to help the survivor regain a sense of control and empowerment.

Sexual Assault Nurse Examiners

Sexual Assault Nurse Examiners (SANEs) are registered nurses (RNs) who have received advanced training in the care of patients who have experienced sexual assault or abuse as well as the collection and preservation of forensic evidence (SANEs, n.d.). They are the preferred provider of care for the sexual assault victim because their training and expertise lend them the skill sets necessary to minimize trauma and promote restoration (Campbell, Greeson, & Fehler-Cabral, 2013). The cornerstone of an RN's practice is to provide for the emotional and medical needs of patients, which makes them a critical component in a survivor-centered response to sexual assault.

Sexual assault nurse examiners evaluate and treat the patient in a holistic manner and are mindful of both the acute and long-term effects of victimization. Sexual Assault Nurse Examiner's are taught to provide trauma-informed care. This patient-centered approach was introduced to healthcare to address the effects of stress and trauma and the potential for re-traumatization in sexual assault victims (Fleishman, Kamsky, & Sundborg, 2019). They gather a medical history and history of the assault in a manner that is both culturally and developmentally appropriate. Obtaining this history lays the foundation to guide the exam and evidence collection, treat or prevent sexually transmitted infections (STIs) and pregnancy, educate the patient about their condition, and prescribe appropriate follow-up services. Sexual assault nurse examiners understand the medical and legal implications of their work. They can preserve physical evidence while helping survivors gain control after an assault and minimizing the risk of re-traumatization during the evidence collection process. In a study comparing outcomes before and after the implementation of a SANE program, sexual assault victims were found to have more medical treatments (STI treatment, pregnancy testing, prophylaxis treatment), and a greater number of and more comprehensive referrals to follow-up services (Crandall & Helitzer, 2003).

Sexual assault nurse examiners are uniquely positioned to provide comprehensive health care while filling an important role in the criminal justice system. They are the link between healthcare and the legal system. Schmitt, Cross, and Alderden (2017) found that prosecutors favored SANEs over other medical professionals in managing sexual assault cases, citing their superior documentation, evidence collection, thoroughness of the physical examination, and identification of injuries. Several prosecutors commended the quality of the SANEs' relationships with patients, professionalism, preparation for and testifying at trial, and credibility with jurors. Golding, Wasarhaley, Lynch, Lippert, and Magyarics (2015) and Wasarhaley, Simcic, and Golding (2012) found that mock jurors were three times more likely to render guilty verdicts with a SANE testimony than with testimony by a non-SANE registered nurse. With the public's longstanding favorable view of nurses, they are well suited to perform in this role, both as providers and as expert witnesses to jurors. This same study revealed that there were more reports to police post-SANE program implementation compared to pre-SANE (72% to 50%), more sexual assault kits collected (88% to 30%), and increased conviction rates (69% vs. 57%). There were more charges filed, longer average sentences, and improved collaboration (Crandall & Helitzer, 2003). Campbell et al. (2014) found that among six communities with SANE programs, sexual assault cases were more likely to be prosecuted post-SANE as compared with pre-SANE. Campbell, Patterson, and Bybee (2012) compared case progression outcomes before and after the implementation of a SANE program and found that more sexual assault cases moved further through the system, reaching higher levels of case disposition.

Sexual Assault Nurse Examiner Training Programs

Sexual Assault Nurse Examiner programs were first developed in the 1970s in response to nurses' concerns that sexual assault victims were not receiving the specialized care needed in

emergency rooms. Training programs were slow to develop until the formation of the IAFN in 1992 (SANE Program Development and Operation Guide, n.d.). This formal organization of nurses was instrumental in recognition of forensic nursing as a subspecialty by the American Nurses Association in 1995. In response to the increasing demand for more SANE programs, the Office for Victims of Crime (OVC) of the Department of Justice, began facilitating the development of SANE programs with the release of their SANE Program Development and Operation Guide in 1997. The National Protocol for Sexual Assault Medical Forensic Examinations was initially released in 2004 with the second edition published in August 2018. The IAFN published the Adult/Adolescent and Pediatric Sexual Assault Nurse Examiner Guidelines in 2015 and released the updated version in 2018. In 2016, there were more than 800 SANE programs in the United States that provided care to sexual assault victims. The IAFN currently recognizes 21 SANE training programs in the nation, an amount too small to supply the number of SANEs needed to meet the demand.

The IAFN education guidelines. Grounded in Roy's Adaptation Model of Nursing, Benner's From Novice to Expert Theory, and Duffy's Quality Caring Model, the IAFN Education Guidelines provide an overview of the minimum education requirements to fulfill the forensic nurse role. The adult/adolescent guidelines were used in the development of this project and are discussed below.

Didactic Education. The didactic portion of the training must be IAFN certified and include a minimum of 40 hours of instruction to meet eligibility requirements for the Commission for Forensic Nursing Certification examination. Instruction can be offered in a face-to-face format or strictly web-based but can not take longer than 15 weeks to complete. The guidelines identify key learning themes for the didactic portion that include background and

foundational topics, specifics of the medical examination, and aftercare. Foundational topics include an overview of forensic nursing and sexual violence, victim responses and crisis intervention, and collaborating with community agencies. Specific examination topics include medical forensic history-taking, observing and assessing physical examination findings, medical forensic specimen collection, medical forensic photography. Aftercare topics include sexually transmitted disease testing and prevention, pregnancy risk evaluation and care, medical forensic documentation, discharge and follow-up planning, and courtroom testimony and legal considerations. Each of these topics contains learning objectives and a comprehensive outline of specifics that must be included in the training (IAFN,2018).

Clinical Training. The clinical training portion is an adjunct to the didactic education and offers several approaches for achieving competence in clinical forensic skills. Demonstration and simulation-based teaching are key components for meeting learning objectives. Taking into consideration the challenges that exist in different communities (diversity, rural vs. urban), the IAFN guidelines assert that clinical skills acquisition can be attained through several different approaches. Regardless of the method of didactic delivery, a clinical skills component must also accompany the initial training. The IAFN indicates that this clinical skills component should take place within six months of completion of the didactic portion and that it may be accomplished in a variety of ways. Recommendations include the completion of a clinical skills lab, inclusion as part of the precepted experience, or as an integrated part of clinical orientation offered by an employer (IAFN, 2018). Development, implementation, and evaluation of a three-day clinical skills lab to fulfill this portion of the training is the focus of this DNP project.

Beyond the clinical skills training, all additional experiences include clinical activities with sexual assault victims under the preceptorship of a physician, advanced practice nurse, or a forensically experienced registered nurse. The trainee may complete one of the following options - clinical experiences with non-sexual assault patients; simulated patient experiences using live models; or simulated patient experiences using medical simulation models. All experiences must adhere to the clinical content outlined in the guidelines and continue until competency is achieved. Grounded in the nursing process framework, the guidelines include the minimum 32 topics of knowledge and skills that trainees must possess to provide care for sexual assault victims. These evidence-based, standardized skills are outlined in the IAFN's Adult/Adolescent Sexual Assault Nurse Examiner Initial Competency Validation Form (Lechner et al., 2018). This form served as the footing for this training.

Clinical Practice. The IAFN recommends that clinical practice/preceptorship is achieved within six months of completing the didactic education and clinical training. This allows for maximum retention of knowledge and skills. Clinical practice is continued until the nurse demonstrates competence and is deemed so by the professional assessing the required skills. Candidates for certification must acquire a total minimum of 300 SANE-related practice hours within three years of taking the exam. These hours include the clinical training, supervised/precepted practice hours, and any hours obtained following competency validation.

Barriers to Training and Retention

The process of training new SANEs presents with many barriers. Because forensic nursing is a relatively new and emerging field, many nurses are not aware of the role of a SANE or how to enter into this specialty. Recruitment of potential trainees begins with increasing awareness of the problem of sexual assault and the need for competent caregivers. This includes

the availability of racially and culturally diverse SANEs that will likely understand the cultural basis and acceptance of reporting sexual assault and of receiving care. Rural areas pose unique challenges for sexual assault victims. According to the U.S. Government Accountability Office [GAO] (2016), there is a lack of sexual assault centers and SANEs in rural areas, which makes for a long commute and delayed treatment for the victim. If survivors seek treatment at a hospital, emergency rooms offer a less than optimal environment with staff that may or may not be trained to provide appropriate, trauma-informed care. The lack of formal centers dedicated to sexual assault services does not provide an avenue for SANEs to practice on a regular basis. Rural hospitals may not have the funds to allocate to an independent program that provides 24/7 coverage for sexual assault cases.

Another barrier to training is cost. Some of the costs associated with training includes securing a location and instructors, standardized patients, manikins, and other supplies and equipment. Because most nurses interested in SANE training are actively employed, they must request time off, and most have to travel to where the training is being held. Most sexual assault centers are funded through state or national agencies. Some centers operate through private donations. Currently, in Georgia, SANE training is provided by the Georgia Network to End Sexual Assault (GNESA), and by individually contracted SANE experts. Funding for GNESA is provided by the Criminal Justice Coordinating Council (CJCC), Department of Public Health (DPH), and the Office on Violence Against Women (OVW). In 2013, two federal grantees trained 38 examiners in Georgia (GAO, 2016). Additional funding for training was made available through a Health and Resource Services Administration (HRSA) grant in 2018 to increase the number of certified SANEs, particularly in rural areas. These subsidies can cover

not only the cost of training, but of travel, lodging, and the certification examination fee, alleviating some of the obstacles that potential trainees may encounter.

Another barrier is the time commitment required of those seeking to be trained. Besides working full-time in other capacities and making arrangements with their employers to take time off, trainees must devote time and energy to complete all the requirements for the program. The time to needed to complete the online didactic course, attend the clinical skills training, and arrange for clinical practice experiences requires discipline and commitment.

Finally, retaining practicing SANEs once they are trained is a challenge. As conveyed in the 2016 GAO report, of the 540 examiners trained in one state over two years, only 42 of those examiners were still practicing at the end of the same two years. The overall low training and retention rate can be attributed to the lack of training (availability of classrooms, clinical, and continuing education opportunities), weak support from stakeholders (hospitals reluctant to pay for training or on call services), limited resources (clinical practice sites, follow-up services), and the emotional and physical demands that the work entails (GAO, 2016).

Simulation in Nursing Education

The use of simulation in healthcare is a concept that began in the 1960s and has only recently surged in popularity for its proven benefits in nursing education. Simulation is a teaching method used to help learners make a connection from the classroom to the patient through practice and debriefing, while in a safe environment. A standardized participant (SP) is "a person trained to portray a patient or other individual in a scripted scenario for instruction, practice, or evaluation" (Gore and Thomson, 2016).

There are limited studies on the use of SPs in sexual assault training. In a study of midwifery students, Norouzi, Jararnezhad, Khadivzadeh, Hedjazi, and Esmaily (2019) found that

the use of standardized patient-based training versus a team-based approach improved nursing skills of history-taking of sexual assault survivors. Another study found that the use of SP simulation with interpersonal violence training among nursing students enhanced confidence and knowledge of assessment and intervention (Blumling, Kameg, Cline, Szpak, & Koller, 2018). A scoping review by Williams and Song (2016) revealed that 24 of 33 studies supported the use of SP methodology in healthcare education, evidenced by the development of students' clinical competence. Fitzpatrick et al. (2012) validated the use of simulation in cross-training inhouse emergency personnel in the care of sexual assault patients. Review of the literature suggests that the use of SPs in SANE training would enhance knowledge, competence, and self-efficacy.

Purpose

The purpose of this project was to design, implement, and evaluate the clinical training portion of a SANE training program. To ensure that the training was supported by evidence and grounded in the nursing process, the design was fashioned after the IAFN's educational guidelines. The training was implemented following didactic education to three separate groups of trainees between June 2019 and January 2020. The impact of the clinical skills training was evaluated by measuring participant knowledge, competence, self-efficacy, before and after the training. The questions to be answered were:

- What is the effect of a 3-day clinical skills training immersion on SANE participants' knowledge?
- What is the effect of a 3-day clinical skills training immersion on SANE participants' competence level?
- What is the effect of a 3-day clinical skills training immersion on SANE participants' self-efficacy?

Theoretical Model

The Context, Input, Process, Product (CIPP) Evaluation Model (Figure 1) was used as the framework for this project (Stufflebeam & Zhang (2017). Created in the 1960s by Daniel Stufflebeam, the CIPP model systematically gathers information about a program to detect strengths and limitations in content or delivery (Clementz & Green, 2003). The model takes a "learning by doing" approach to continuously improve program effectiveness and plan for the future of a program. Evaluation of the program is management focused and includes four stages: Context Evaluation - the overall goals or mission; Input Evaluation - the plans and resources; Process Evaluation - the activities or components; and Product Evaluation - the outcomes or objectives (CIPP Model | Poorvu Center for Teaching and Learning, 2019).

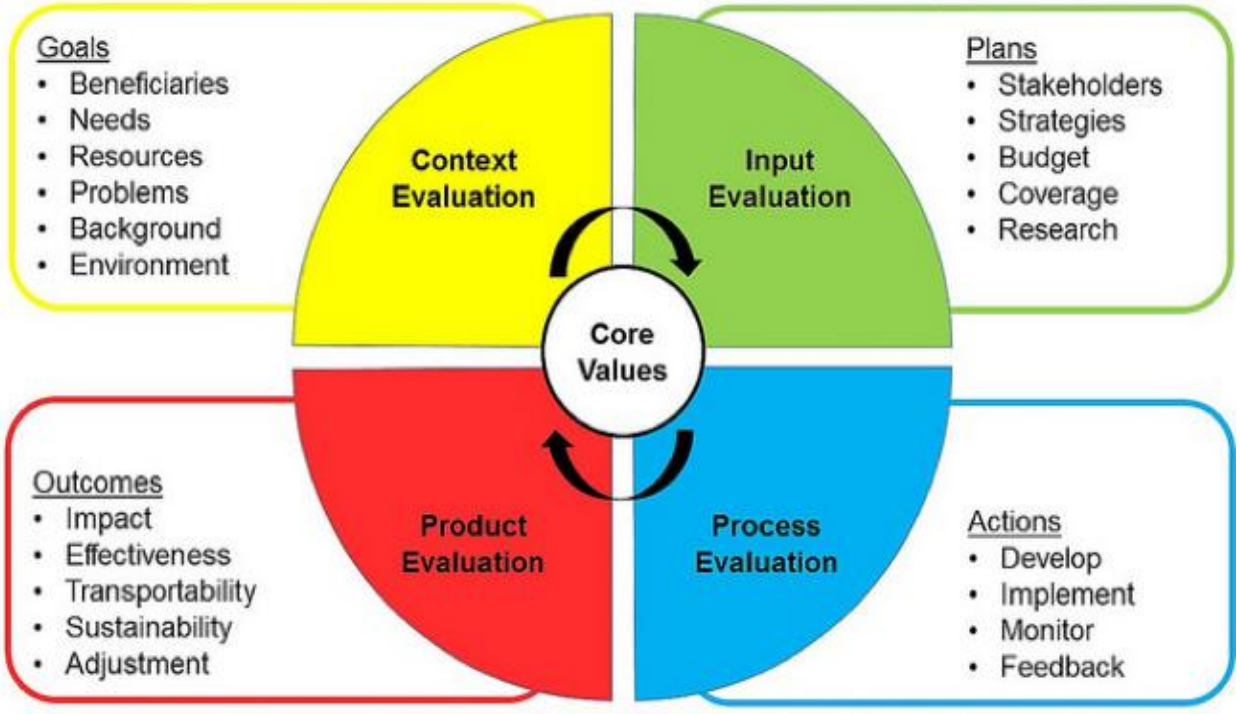

Figure 1. Context, Input, Process, Product (CIPP) Evaluation Model.

For this project, the clinical skills portion of the SANE training program was a critical component in the overall goal, or core value, to prepare highly competent SANEs for practice;

therefore, designing and evaluating an evidence-based 3-day clinical skills training was the primary focus. Each stage of the CIPP model was followed to ensure the best outcome.

Context Evaluation

The process of designing clinical training began with context evaluation - researching the need for and determining available resources for training. This required an extensive review of the literature, networking with existing agencies to develop partnerships, and intentional content learning to become familiar with the forensic nursing field. This project's PI and Program Director completed SANE training at two separate facilities to compare experiences and became members of the IAFN. Relationships were established with expert certified SANEs throughout the state, including the newly appointed SANE Coordinator for Georgia, and the presidents of the Academy of Forensic Nursing (AFN) and the Georgia Academy of Forensic Nursing (GAFN).

Input Evaluation

The input stage included planning, budgeting, and developing a timeline for the training. Planning included input from the two partnering agencies for the overall SANE training program. Recruitment efforts targeted staff from partnering agencies for the first cohort to provide clinical practice experiences for subsequent groups of trainees. This initial group was intentionally kept at a low number for manageability. Other established agencies were contacted to initiate Memorandums of Understanding (MOUs) for trainee practice experiences. Strategies were put in place to create a variable credit hour course at the local university, a vessel within which the training program would be housed. Inventory of available resources, supplies, space, and training personnel was also conducted. A budget was constructed to include all supplies, contracted live models for simulation, travel and lodging, and meals during training.

Process Evaluation

The third stage, process evaluation, involved examining each presentation, case study, and practice sessions to determine what works well and how the program could be improved moving forward. Forms, agendas, and contracts were all finalized before implementation of training. An independent, contracted program evaluator conducted focus group and individualized evaluations with participants. Feedback from participants, trainers, and live simulation models was noted throughout the 3-day training. All training personnel attended a formal debriefing via WebEx within two days after the trainings, where changes and improvements were discussed. Specifics regarding changes will be addressed in the Discussion and Conclusion section of this paper.

Product Evaluation

During the product evaluation stage, measurable outcomes were analyzed to determine the impact of the training and the fidelity of the overall program. Qualitative evaluations from each of the three training sessions were utilized to make immediate, yet minor changes to enhance the learning experience. As the CIPP model suggested, evaluation of the training was ongoing. As the need for revisions became apparent, adjustments were carefully considered and then carried out. Strategies to ensure sustainability were implemented and will be discussed in the Discussion and Conclusion section of this paper.

Project and Study Design

Clinical Questions

A single group pre-test, post-test study design was used to determine if a 3-day clinical immersion intervention would increase SANE training participants' knowledge, competence level, and self-efficacy. The prerequisite for the 3-day clinical skills immersion (hereinafter

referred to as “training”) was the completion of an IAFN approved, 40-hour didactic course within six months of training. Knowledge was measured by comparing scores from a 50-item exam administered immediately before and immediately after each training. Competency was measured using a competency validation form and grading rubric while trainees performed a complete medical forensic exam on a standardized patient. Self-efficacy was measured using an 8-item, 10-point Likert scale survey. The Self-Efficacy Survey was completed immediately before and immediately after the training. The following clinical questions were answered:

Clinical Question 1. What is the effect of a 3-day clinical skills training immersion on SANE participants’ knowledge?

Clinical Question 2. What is the effect of a 3-day clinical skills training immersion on SANE participants’ competence level?

Clinical Question 3. What is the effect of a 3-day clinical skills training immersion on SANE participants’ self-efficacy?

Setting

The project was implemented at the Georgia College School of Nursing Simulation and Translational Research Center (GC SON STRC) in Milledgeville Georgia, the geographical center of the state. This 8,985 square foot, state-of-the-art center easily accommodated training with its ample space, high-fidelity simulation equipment, and modern classroom capabilities. The center occupies a floor in a local hospital and contains two classrooms with smartboards, tables and chairs, and three pre-briefing/debriefing areas. There are nineteen patient rooms with video recording capabilities, ideal for monitoring competency. Ten of these replicate graduate exam rooms and seven of these are equipped with a GYN exam table, rolling stool, and MAO stand. Included in this group is one SANE training room with an exam table, fully stocked SANE cart, colposcopy, and separate space replicating an area appropriate for forensic

interviewing. The center maintains several low-fidelity and high-fidelity manikins, including five pelvic simulators.

Participants

Study participants were recruited from trainees enrolled in the existing ANE-SANE training program. The overall program required that the trainees have two years of nursing experience and commit to completing the program with the intent to take the certification exam. For inclusion in the study, participants must have been enrolled in the ANE-SANE training program and completed the 40-hour didactic education. Participants were also required to speak and comprehend the English language. Forty trainees enrolled in the overall training program. Of these, four were either instructors or preceptors, four did not complete the didactic education, and eight completed didactic but deferred clinical training due to illness, or family emergencies. Of the twenty-four trainees eligible, all participated in the study. Using an online calculator, with this small sample size, a confidence level of 95%, and a confidence interval of 1%, the recommended sample size was 24 (Creative Research Systems, n.d.).

Ethical Considerations

Prior to implementation, the project was reviewed and approved by the Georgia College and State University Institutional Review Board (Appendix A). At the beginning of the first day of the 3-day clinical immersion, the principal investigator explained that a study was being conducted and that they may volunteer to participate but were not obligated to do so. Potential participants could ask questions if necessary. The informed consent (Appendix B) was read aloud, and participants were instructed to sign and return the consent if they chose to participate in the study. All participants from the three trainings signed consent. A copy of the consent was given to each participant for their personal records.

To control bias and ensure the ethical protection of study participants, all participants were assigned a unique number between 1 and 100 to use on all forms and instruments. The principal investigator (PI) maintained a master list of assigned numbers matching to participants' names in a locked cabinet within the PI's office and separate from other study materials including consent forms and instruments. This list of assigned numbers was shredded by the PI within 30 days of completion of data collection. All tools were provided in paper format and were collected by the PI upon completion. All data was collected and secured by the PI in a locked cabinet in the PI's office. Data was deidentified and uploaded into a password-protected computer. Only aggregated data (no personal data) was published. All other study material will be maintained for five years, at which time all information will be shredded by the PI.

Regarding stress related to the study, participants were not expected to experience any risk greater than that ordinarily encountered in daily life. The benefits of participating in the study included the personal satisfaction of contributing to the refinement and sustainment of a SANE training program and knowing that future evidence-based training would be accessible to nurses in rural areas.

Intervention

This section describes the project design specific to the third of three trainings. As the CIPP Evaluation Model suggests, minor changes from the first and second trainings based on participant and instructor feedback. These adjustments are described in the Discussion and Conclusion section of this paper. The PI and program director determined that the 3-day training would best accommodate most participants if scheduled on a Friday, Saturday, and Sunday. Most, if not all participants worked full-time jobs, so this schedule made it easier for them to attend. This schedule was also conducive with the GC SON STRC, since the center hosts

multiple class simulations during weekdays. The training agenda was reviewed with endorsement by the Georgia State SANE Coordinator and the President of the Academy of Forensic Nursing.

Day one. Training was designed to follow the IAFN Education Guidelines and incorporate Georgia-specific regulations, practices, and resources. Each student was given a notebook with power point presentations, resources, agenda, and sample forms. Following completion of pre-training project instruments on Day One, students listened to experts present Georgia-specific information and expanded on what they learned in the original didactic modules. They also participated in instructional practice sessions and case studies. Topics included an overview of forensic nursing in Georgia, drug facilitated sexual assault, and human trafficking. Participants were guided in a hands-on exploration of sexual assault kit contents and engaged in a forensic photography exercise. Instructors utilized case studies to present information on STIs, medications, and treatments, and on gynecologic wound identification and documentation. Participants received individualized instruction and practiced speculum exams on low-fidelity pelvic models. A sexual assault advocate facilitated a discussion on the role of the advocate, and a district attorney presented on the role of the SANE in the courtroom setting.

Day two. Day Two began with time for questions and answers, then a presentation on history-taking. Participants were given scenarios to practice role-play with their peers. Trainees then viewed a complete forensic exam, including forensic interview and medical exam, performed by an expert certified SANE with a gynecological teaching assistant (GTA). Through use of the room video camera, the exam was displayed on two classroom smartboards for the trainees to observe and hear. Trainees were assigned to groups of five and rotated through three stations every hour. Stations included photography (entire group), mock court (entire group),

and practice forensic exams (separate rooms for each trainee). For the practice exams, each trainee performed a medical forensic examination with individual instruction and guidance by one instructor and one GTA. For the photography station, participants randomly picked from five pictures of wounds and were instructed to photograph the wound on their "partner." The series of photographs included bookends, and three wound photographs, including orientation, close-up, and close-up with scale. They then documented findings on a form that was reviewed by the PI. After lunch, trainees rotated through three other stations including case studies and SANE Q&A with the entire group, and individual practice exams with a different GTA and scenario from the earlier rotations. Finally, the entire cohort participated in a debriefing session and discussion of discharge planning.

Day three. The day began with time for questions, and then group rotations to perform a third practice exam followed by individual debriefing, and a group strangulation station. During lunch, a program evaluator conducted a focus group discussion and collected program evaluation surveys. After lunch, rotations included the final forensic exam, individual debriefing session, and a group mentoring station. At the end of the day, participants completed the post-training knowledge exam, self-efficacy survey, and a program evaluation. Certificates of completion were awarded.

Breakfast and lunch were provided all three days. Trainees performed four complete forensic medical exams, each with different case scenarios and simulated patients. Throughout the training, instructors contributed to an interactive, supportive, and low-stress environment.

Instruments and Analysis

Primary data was collected using a demographic instrument, a knowledge assessment instrument, a competency checklist, and an evaluation form. Upon signing the informed consent,

participants completed the Demographic/Qualification Tool (Appendix C). The instrument was developed by the PI and contained information including the participant's age, ethnicity, highest degree attained, number of years as an RN, area of practice, and experiences with forensic training or caring for forensic patients.

Knowledge of forensic information was measured before training and immediately after training using the Nursing Forensic Science Knowledge Exam [NFSKE] (Appendix D). This 50-item tool was developed by Stacy A. Drake Ph.D., MPH, RN, AFN-BC, D-ABMDI in 2014. It was tested for content validity via a panel of experts, and internal consistency and reliability via a KR-20 test with a resulting coefficient of .27 (Drake, 2014). Permission was granted by the author to use this instrument (Appendix E). The exam was graded manually by the PI. Participants completed this same exam at the end of the 3-day training. Exams were again graded manually by the PI and subsequently analyzed to answer Clinical Question 1 pertaining to knowledge. Pre and post training scores were compared for any changes in knowledge.

Validation of competence level was determined during the training while participants performed simulated forensic exams. The SANE Competency Validation Checklist (Appendix F) was adapted from the IAFN SANE Education Guidelines and included skills needed to perform a comprehensive medical forensic exam. The guideline incorporates the nursing process founded on the principles of assessment, diagnosis, outcomes identification, planning, implementation, and evaluation, which was reflected in the validation checklist. A Grading Rubric (Appendix G) that coincided with the instrument was used to ensure interrater reliability. Both instruments were reviewed for content validity by two state SANE experts and one national expert. Prior to initiation of the simulated exams, the PI trained the instructors on the use of both the competency instrument and grading rubric. On Day Two of training, each participant paired

with an instructor and GTA to receive individualized, focused training on forensic exam skills. Instructors used the tool as a guide and provided immediate feedback during the training. Participants proceeded through a series of cases with progressively less prompting from the instructors, to increase the trainees' confidence. On Day Three, trainees completed a "final exam" without prompting which was evaluated by an instructor stationed in another room. The validation checklist utilized by the instructor served to answer Clinical Question 2 regarding competence level.

Clinical Question 3 was answered using the Self-Efficacy Survey (Appendix H). The instrument was designed by the PI and included eight questions related to the participants' confidence in caring for forensic patients. Derived from key topics outlined in the IAFN Education Guidelines, the survey asked the trainee to rate their confidence in performing crucial elements of the forensic exam. The eight skills were rated on a 10-point Likert Scale, with one being "not at all confident" and ten being "extremely confident". Participants completed the survey at the beginning of Day One (before training), and at the end of Day Three. Scores of both surveys were manually calculated by the PI and the pre and post scores were compared for changes. The instrument was tested for internal consistency, using a Cronbach's Alpha with a resulting coefficient of .774, which is acceptable.

Budget

This project was part of the overall ANE-SANE program which was fully funded through the HRSA grant. The initial cost of the program included supplies that would be used for subsequent trainings. Individual trainings would incur additional costs and a required projection of those costs was in order (Appendix I).

A Georgia-based contracting service supplied the GTAs and standardized participants. There was a minimal cost for office supplies. With an understanding of the cost structure and by calculating the variable cost rate, it was determined that the average cost for each participant in the "training" was $498. This was based on a range of two to twenty trainees per event. The most impactful variation was with the cost of GTAs, and with a standard GTA to student ratio of 1:3, the cost per trainee fluctuated from $399 to $790.

Data Analysis

Reportable findings include sample characteristics, comparison of pre- and post-intervention knowledge assessment, level of competence, and comparison of pre- and post-intervention self-efficacy using a self-assessment survey. A qualitative analysis was performed to further evaluate the effectiveness of the training. Normality was tested by using graphical and non-graphical methods to analyze skewness, kurtosis, histograms, boxplots, and Q-Q plots. Normal distribution was confirmed for both the knowledge and self-efficacy assessments.

Sample Characteristics

Twenty-four nurses participated in the clinical skills training, all of whom agreed to take part in the study. Twenty-three females and one male had a mean age of 41 (*SD* 9.11), ranging from 28 – 65 years (CI 37.6 – 45.3). The mean total number of years as a registered nurse was 9.33 (*SD* 5.95), with a range of 2 – 28 years (CI 6.82 – 11.85). This population represented diverse racial/ethical backgrounds with the majority being white/Caucasian (*n* = 17), followed by Black/African American (*n* = 5), and Asian (*n* = 2). Level of education varied as well, with most being Master's prepared (*n* = 9), followed by Bachelor's (*n* = 6) and Associate's degrees (*n* = 7), and Doctoral level (*n* = 2). Nurses characterized their practice roles as Registered Nurses (58.3%), Family Nurse Practitioners (25%), Nurse Educators (8.3%), or "other", and practiced in a variety of places, mostly in hospitals (66.7%). None of the participants reported having any

prior experience in forensics. Table 1 summarizes the demographic characteristics of the sample population.

Table 1

Sample Characteristics (N = 24)

Characteristic	*M*	*(SD)*	*n*	(%)	*Range*
Age (years)	41.42	(9.11)	24	(100)	28-65
Gender					
Male			1	(4.2)	
Female			23	(95.8)	
Race/Ethnicity					
Black/African American			5	(20.8)	
Native Hawaiian or Pacific Islander			0	(0)	
White/Caucasian			17	(70.8)	
American Indian/Alaska Native			0	(0)	
Asian			2	(8.3)	
Other			0	(0)	
Highest Level of Education					
Associates			7	(29.2)	
Bachelors			6	(25.0)	
Masters			9	(37.5)	
Doctoral			2	(8.3)	
RN Practice Role					
Clinical Nurse Specialist			0	(0)	
Community Health Nurse			0	(0)	
Nurse Educator			2	(8.3)	
Nurse Practitioner: Family			6	(25.0)	
Nurse Practitioner: Forensic Nursing			0	(0)	
Nurse Practitioner: Other			0	(0)	

Registered Nurse			14	(58.3)	
Advanced Practice Registered Nurse			0	(0)	
Nursing: Other			2	(8.3)	
Type/Place of Employment					
Academia			1	(4.2)	
Community Health Center			1	(4.2)	
Federally Qualified Health Center			0	(0)	
Hospital			16	(66.7)	
Local Health Department			2	(8.3)	
Nonprofit Organization (Faith-Based)			0	(0)	
Nonprofit Organization (Not Faith-Based)			1	(4.2)	
Nursing Home			0	(0)	
Rural Health Clinic			0	(0)	
School-Based Health Center			1	(4.2)	
State Health Department			0	(0)	
Other			2	(8.3)	
Years Employed in Current Role					
0-2 years			4	(16.7)	
3-5 years			12	(50.0)	
6-8 years			5	(20.8)	
9-11 years			3	(12.5)	
12 years or higher			0	(0)	
Forensic Experience					
Yes			0	(0)	
No			24	(100)	
Total Years as a Registered Nurse	9.33	(5.95)	24	(100)	2-28

Clinical Questions

Clinical Question 1: What is the effect of a 3-day clinical skills training on SANE participants' knowledge? A paired-samples *t*-test was used to test the hypothesis that there would be a difference in knowledge exam mean scores following the 3-day clinical skills training. The research hypothesis was rejected. There was no significant increase in total mean exam scores from baseline (*M* 55.9, *SD* 6.34) to post-training (*M* 55.3, *SD* 6.24) *t* (23) = 0.54, *p* = .592 (CI -1.87 – 3.20).

Clinical Question 2: What is the effect of a 3-day clinical skills training on SANE participants' level of competence? The competency instrument revealed that all participants scored at least "proficient," and none "below proficient" on all skills. The reviewer recognized some grading inconsistencies among the evaluators. See the limitations section for further details.

Clinical Question 3: What is the effect of a 3-day clinical skills training on SANE participants' self-efficacy? A paired-samples t-test was used to test the hypothesis that participants had higher self-efficacy scores following the 3-day clinical skills training than at baseline. The research hypothesis was supported. A significant increase in self-efficacy scores was demonstrated from baseline *M* = 27.97, *SD* = 8.96 (CI 23.8 – 32.2) to post-training *M* = 43.2 (SD 12.73) *t* (19) = -6.7, *p* < .001 (CI -19.98 – -10.47). Participants were asked to rate on a 10-point Likert scale their confidence level of eight skills. There was a significant increase in confidence levels in seven of the eight skills, with identifying injuries, *t* = -7.25, *p* < .001 (CI -3.48 – -1.94), photographing injuries, *t* = -3.34, *p* = .003 (CI -1.82 - -0.43), collecting forensic evidence, *t* = -7.48, *p* < .001 (CI -3.3 – -1.87), performing a forensic exam, *t* = -9.47, *p* < .001 (CI -3.71 – -2.38) , maintaining chain of custody, *t* = -3.64, *p* = .002 (CI -2.55 - -0.69), testifying

in court, t = -2.50, p = .022 (CI -2.02 - -0.18), and identifying strangulation injuries, t = -5.16, p = < .001 (CI -3.21 - -1.36). Participants reported less confidence in their abilities to obtain historical data from the patient after training, t = -1.53, p = .139 (CI -1.49 – 0.22). Table 2 summarizes each variable in the self-efficacy instrument.

Table 2

Self-Efficacy Responses Pre- and Post-Training (n=24)

	Variable	Pre-Training ***x*** *(SD)*	Post-Training ***x*** *(SD)*	*p*
1.	Obtaining historical data from the patient	5.96 (2.42)	6.58 (1.93)	.139
2.	Identifying injuries in a forensic exam	3.46 (1.32)	6.17 (1.81)	<.001
3.	Photographing injuries	3.58 (1.35)	4.71 (1.99)	.003
4.	Collecting forensic evidence	3.38 (1.41)	5.96 (1.88)	<.001
5.	Performing a forensic exam	3.00 (1.56)	6.04 (1.90)	<.001
6.	Maintaining chain of custody	*4.57 (2.62)	*6.19 (1.66)	.002
7.	Testifying in court	*2.50 (1.88)	*3.60 (1.88)	.022
8.	Identifying strangulation injury	*2.90 (1.41)	*5.19 (1.97)	<.001

Note. * indicates missing data. Three participants failed to complete questions 6, 7, and 8 on both the pre- and post-surveys.

Program Acceptability and Fidelity

An evaluation designed by the PI was completed by all participants following the end of immersion training. Qualitative data regarding the 3-day training only was extracted and compiled in the following paragraphs. The data reflects six open-ended questions specific to the

training experience. The following includes a summary of responses from each cohort and strategies implemented to address identified concerns and improve subsequent trainings.

Cohort 1 (Appendix J). Overall, participants were satisfied with the clinical training. When asked what it was like to participate in the training, one participant indicated, "I felt that there was a learning curve to interacting with the standardized patient." When asked what they liked most about the training, this same participant responded, "Although there was a learning curve, the standardized patient! It provided the opportunity to interact with an individual and get real-time responses or reactions." Other participants also indicated that working with standardized patients was what they liked most, with one adding, "I liked the hands-on portion of the program, especially working with the standardized patients." Collectively, participants expressed a need for additional training saying, "I would have liked a little more time documenting and/or photographing various types of injuries," and "Need more information on court testimony and photography." Based on this feedback, changes were made to the training that included the addition of prosecuting attorneys facilitating a mock trial, and the addition of a skills station for photography.

Cohort 2 (Appendix K). Like responses from the first cohort, participants gave positive feedback overall saying, "Loved being able to work with real patients and get feedback from SANE experts," and "Well delivered with sufficient time for questions and explanations." Although a photography station was added to the training, one participant responded, "I would've liked more practice with cameras and completing photography." When asked about dislikes, one participant replied, "Really loved it. Would provide presentations beforehand. Plus, outline of flow of exam." Another added, "I would've liked having someone complete the

exams (presented) prior to my completing an exam – that made it more difficult to complete my exam, having to go back and add."

In reviewing this feedback and the training agenda, a mock exam was performed by an expert SANE with a GTA. Participants gathered at the bedside during the exam, but the room was somewhat crowded. To address this issue going forward, video monitoring with audio was utilized during the exam and displayed on two large screens in classrooms to accommodate the larger class size. Another change included the addition of power point note pages in the participants' notebooks, and a guideline with a suggested order of completion for the exam. The photography station was revised to include a more hands-on approach to learning, where participants partnered with another student, picked a laminated "wound" and photographed the wound on their partner. They then documented findings on a form that was reviewed by the PI, who offered immediate remediation debriefing. The PI considered offering photography as separate learning activity and forwarded photography training links to participants after training.

Cohort 3 (Appendix L). Responses echoed previous trainings regarding the use of GTAs, hands-on training, and content delivery as a positive experience. When asked about what they liked about the training, participants wrote, "I liked all of the instructors. Everyone was so patient and willing to answer all my questions. I loved that everyone made themselves available after this clinical training," and "Being able to do real exams on the GTAs." One participant praised "GTAs willingness for exams" as a positive, but added, "Every GTA was saying something different and there was no consistency." Another participant commented, "Supplies need to be more on hand (evidence collect kits) keep it consistent, either swab or don't, and don't mix/match."

The matter of the GTA was handled at the time that it occurred. There was one GTA that contradicted the feedback that an experienced SANE instructor gave. This was communicated to the company's owner and was remedied for the immediate training as well as for future trainings. Regarding the availability of evidence collection kits, the intention was to issue two new kits to each participant for the training. One kit would be opened during the presentation involving inspection of the contents. Kits would be repackaged and used for two of the four practice exams. The second kit would be used for the two exams on the final day of training. In review, the need to preserve contents was perhaps not clearly communicated. Going forward, the PI will ensure that there are ample supplies on hand. Because the need for more photography practice is a consistent concern, a future change may involve incorporating photography into actually performing the practice exams.

Discussion and Conclusion

Efficacy of the Intervention

In conjunction with the CIPP Evaluation Model, each training came with evaluations from participants and feedback from instructors. The content remained pretty constant throughout, but how it was delivered, varied slightly. There were six themes that emerged from these evaluations. Some participants were uneasy working with standardized participants, mentioning there was a "learning curve", but after the first practice exam, they felt much better. All of the participants from each training were very appreciative to have been able to work with the GTAs. All trainings mentioned that more courtroom training was needed. In the first training, there was only lecture on the topic. In the second training, two prosecuting attorneys were added and reviewed a court case and gave tips on giving testimony at a trial. For the third training, the District Attorney and Assistant DAs first talk about tips for the courtroom and then they did a mock trial. With the limitation of time, this would need to be at least a half-day event

and may better serve as a separate training in itself. Another section that improved with each training was photography. From passing the camera around in the first training, to taking pictures and documenting moulage wounds in the third training. Participants requested to see an exam done by an expert SANE prior to their practicing, so we were able to do that. In the third training, we displayed the exam on two smartboards in classrooms so that everyone could see well.

There was a miscommunication about the sexual assault evidence kits. Participants were instructed to repackage the kits used in practice, but some of them were discarded. Even so, there were enough available for everyone to have a new kit for the final forensic exam. Finally, there was a contradiction of feedback between an instructor and a GTA, which was immediately resolved.

Strengths and Weaknesses of the Study

Many strengths were identified within this project. The training was part of a grant-funded program to train SANEs in rural areas of Georgia. A unique feature of this study was the number of resources that supported the successful execution of the training. With a focus on academia as a foundation of the program, university resources supported the operation and completion of the project. The project was embedded within a variable credit hour college course which gave access to resources within the university system. This university's school of nursing boasts a favorable reputation and had a large pool of alumni and graduate programs from which to recruit for the program, giving a greater pool of recruits for the project. Another contributing strength to the project was the location. The GC SON STRC is in the geographical center of the state, reasonably convenient to all areas. The center itself was a remarkable resource, with its technically modern capabilities. The project had tremendous support from the

State SANE Coordinator under the Criminal Justice Coordinating Council (CJCC). The training was designed to follow the established IAFN Education Guidelines that were updated in 2018. This included the use of simulation to enhance an effective learning experience. Another strength of the project was the interest in and need for SANE training in the state. Georgia government officials, in recognition of this need, appointed a statewide SANE coordinator to oversee this initiative. The timing of this appointment coupled with the timing of this project led to a valuable relationship with this resource.

The CIPP model of evaluation itself is a strength of the project. In following the model, both strengths and weakness were identified. The agenda was revised with each of the three trainings based on class size, and instructor and trainee feedback. In the first training, the history portion and medical exam portion were separated into two simulations. Trainees felt that this was confusing. Additionally, the PI and program Director believed that trainees would benefit from completing four medical exams rather than two. To remedy both concerns, history-taking was conducted as a large group using role play, prior to performing the four medical exams. Following the first training, trial testimony was added to the second training, followed by expert testimony and a mock trial in the third training. A hands-on approach to photography training was added.

Several weaknesses of the project were identified. In the search for a knowledge measurement tool, the PI found one exam pertaining to nursing forensics. Results comparing pre- and post-training scores were not significant for any individual and/or all participants as a group. This could be explained by the questions pertaining to content learned in the didactic portion of the course, rather than from the immersion portion. The author of the tool experienced similar results (Drake, 2014). Although the tool was reviewed by a panel of forensic experts, she

concedes that there could have been issues with construction of some questions, and with level of difficulty. Another factor could be that regulations and practices related to forensics varies from state to state. Drake's tool reflected legal practices in Texas. To remedy this weakness going forward, the PI could design another exam and test for validity and reliability.

In the literature search, the PI was unable to find a self-efficacy tool that pertained to forensic nursing. Subsequently, the PI sought to fill the gap in literature and developed a self-efficacy survey to measure confidence in the ability to perform skills outlined in the IAFN Education Guidelines. The one item that did not result in a significant increase in self-efficacy pertained to the trainee's ability to obtain a history. This result could be due to the presumption that nurses in general are proficient in obtaining histories from patients, and therefore, have a high level of confidence. However, considering the intricacies of obtaining history from a victim of sexual assault, when presented the complexities of this skill during training, it could be that the nurses felt less confident because of these differences.

Instructor debriefing and documentation review revealed inconsistencies in grading competency despite the use of a grading rubric. It was discovered that some instructors denoted "N/A" for the few items that were not assessed during demonstration. On those same items, other instructors commented that the items were "discussed" and rated them as "proficient". This inconsistency was remedied by revising the form to include "N/A" on the lines for skills not performed. Also, there was a variation in the level of experience among the instructors which could have caused inconsistencies in grading.

Sustainability

This project has significant potential for sustainability. If the HRSA grant were made available following completion of the three years, the PI and program Director would reapply for

continued funding. If grant funding were to be suspended, because the program was built and contained within a college course, tuition would cover costs. Three current members of the college faculty are eligible to teach in this course. The established graduate degree programs, including Family Nurse Practitioner (FNP), Psychiatric Mental Health Nurse Practitioner (PMHNP), Women's Health Nurse Practitioner (WHNP), Nurse Educator (NE), and Nurse Midwifery, deliver a substantial pool of recruits. The program could be offered as either an elective or required course in these programs of study.

This training would also serve as a model for a refresher course needed for existing SANEs. Both the Georgia State SANE Coordinator and statewide sexual assault centers have expressed the need for this type of service. Many practicing SANEs can experience low case volumes and may need to refresh their skills, and review updates in protocols. Newly trained SANEs are also challenged with securing a sufficient number of clinical practice hours to achieve competence and confidence in their skills performance. This course would give these professionals the opportunity to develop and maintain their skills by performing complete medical forensic exams on human standardized participants. With the geographically central location, and access to the GC SON STRC, this refresher course could be easily implemented to serve SANEs in Georgia and beyond.

Implications

Clinical practice. The fact remains that the State of Georgia and the U.S. do not have enough SANEs to properly staff sexual assault centers. If this current training program continues, that circumstance will change. As the number of SANEs grows, the prospect for establishing additional sexual assault centers becomes a reality. Sexual assault survivors will have access to services and resources that they may not have been afforded in the past,

particularly in rural areas. The hope is that the public will become more aware of these resources, and that victims will seek out these services if and when the need arises. In turn, the number of cases reported to law enforcement should see an upward trend.

It is known that the services rendered by SANEs yield better outcomes in the judicial system and improved perceptions of care by the victim. Increasing the number of these specially trained professionals can directly influence the short- and long-term effects of trauma in sexual assault survivors. Susequently, this will reduce out-of-pocket medical expenses for survivors throughout their lifetimes. Because the effects of trauma can touch future generations, it is imperative that appropriate care is administered at the onset of the traumatic event, minimizing the domino effect. The training that SANEs receive prepares them to properly deliver this superior care.

Future research. For this training program, future research would include a study to determine the effect of an intense skills training program on entry level competency compared to other training programs. Development of a knowledge assessment tool to help measure program effectiveness would be another area of interest. Because the self-efficacy instrument used in this project was created by the author, future use with testing for reliability would be in order.

Health policy. There is a need for and interest in developing a protocol for standardizing SANE training in Georgia. Standardization would promote consistency in care delivery across the state, giving providers greater confidence in their practice and generating a sense of unity among forensic examiners. The Georgia State SANE Coordinator has expressed great interest in developing this protocol and using this training specifically as a model for programs throughout the state.

Conclusion

Regardless of the setting, nurses will likely encounter a survivor of sexual assault. How that nurse responds to the needs of this patient can impact them for the rest of their life. Ensuring that the appropriate health care provider is available to this population is essential for their continued survival. The global need for properly trained SANEs is evident, and this is true for the state of Georgia as well, particularly in rural areas. The provision of holistic, trauma-informed care by a highly qualified, properly trained SANE can make all the difference in the physical, emotional, and psychological wellbeing of the survivor of sexual assault and those impacted by their experience.

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Appendix A

DATE: 2019-06-13

TO: Shantee Henry

FROM: Sallie Coke, Ph.D., APRN, BC Chair of Georgia College Institutional Review Board

PROJECT TITLE: #11776 Implementation and Evaluation of an Evidence-Based Sexual Assault Nurse Examiner Clinical Skills Program

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: 2019-06-13

REVIEW CATEGORY: Exempt

Thank you for submitting an application to the Georgia College IRB for the above-referenced project. Based on the information you provided in your submission, IRB has determined that your project involving human subjects qualifies for EXEMPT status under 45CFR 46.101(b) (1)-(6).

Assignment of exempt status to this project means that this project is exempt from further IRB review. This exempt status is valid unless substantive revisions to the study design occur which would alter the risk to participants. If a substantive change is anticipated, you may submit an extension/modification form detailing these changes. Please consult the GC IRB if you have a question about a potential change to your exempt study.

Please note that all responsibilities required of conducting human subject research still apply to this project. Specifically, the Belmont Report principles of respect for persons, beneficence, and justice apply, and all investigators involved in this project must have and maintain current/valid certification of training with conducting research with human subjects

We will retain a copy of this correspondence within our records.

If you have any questions, please contact irb@gcsu.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Georgia College IRB's records.

Sincerely,

Sallie Coke, Ph.D., APRN, BC

Appendix B

Informed Consent

TITLE: *The effect of an evidence-based Sexual Assault Nurse Examiner clinical training program on trainees' knowledge, competence, and perceived self-efficacy.*

I, _____, agree to participate in the research SANE Program Evaluation Study, which is being conducted by Shantee Henry, who can be reached at (478) 454-8780 or shantee.henry@gcsu.edu. I understand that my participation is voluntary; I can withdraw my consent at any time. If I withdraw my consent, my data will not be used as part of the study and will be destroyed.

The following points have been explained to me:

1. The purpose of this study is to evaluate the clinical portion of a Sexual Assault Nurse Examiner program.

2. The procedures are as follows: you will be asked to complete a questionnaire at two distinct points in the training process (approximately 50 minutes each).

3. Your name will not be connected to your data. Therefore, the information gathered will be confidential.

4. You will be asked to sign two identical consent forms. You must return one form to the investigator before the study begins, and you may keep the other consent form for your records.

5. This research project is being conducted because of its potential benefits, either to individuals or to humans in general. The expected benefits of this study include contributing to the evaluation and sustainability of an effective SANE training program and increasing the number of qualified SANEs in Georgia, especially rural areas. You will also contribute to the expansion of sexual assault services in your community.

6. You are not likely to experience physical, psychological, social, or legal risks beyond those ordinarily encountered in daily life or during the performance of routine examinations or tests by participating in this study.

7. Your individual responses will be confidential and will not be released in any individually identifiable form without your prior consent unless required by law.

8. The investigator will answer any further questions about the research should you have them now or in the future (see above contact information).

9. In addition to the above, further information, including a full explanation of the purpose of this research, will be provided at the completion of the research project on request.

10. By signing and returning this form, you are acknowledging that you are 18 years of age or older.

Signature of Investigator Date

Signature of Participant Date

Research at Georgia College involving human participants is carried out under the oversight of the Institutional Review Board. Address questions or problems regarding these activities to the GC IRB Chair, email: irb@gcsu.edu.

This ANA-SANE training program is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling $803,000 with 100 percentage financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.

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Appendix C

	This section is to be completed by project staff			
	Program Name:	**SANE Clinical Skills Training - Milledgeville**		
	Start Date:	**9/6/2019**	**End Date:**	**9/8/2019**

The Georgia SANE program is **required** to report information about participants in the categories below. This data will be **confidentially maintained** and will be referenced to evaluate the effectiveness of the SANE program services/programs. We appreciate your cooperation in the completion of this form. **Please type or print clearly.**

Participant Information

First Name:		**Last Name:**	
Birthdate: (mm/dd/yyyy)		**Email:**	
License #		**Credentials | Certifications:**	
Veteran Status:	☐ Active Duty ☐ Military Reservist ☐ Veteran (Prior Service) ☐ Veteran (Retired) ☐ No Service		

What information <u>best</u> describes your profession? (Select one)

Highest Degree Earned: ☐ Associates ☐ Bachelors ☐ Masters ☐ Doctoral

<u>Nursing:</u>
☐ Clinical Nurse Specialist Specialty: _____
☐ Community Health Nursing
☐ Nurse Educator Specialty: _____
☐ Nurse Practitioner: Family
☐ Nurse Practitioner: Forensic Nursing
☐ Nurse Practitioner: Other Specialty: _____
☐ Registered Nurse (RN)
☐ Advanced Practice Registered Nurse (APRN)
☐ Nursing: Other: _____

<u>Medicine:</u>
☐ Physician (DO | MD) Specialty: _____
☐ Physician Assistant Specialty: _____

<u>Behavioral Health:</u>
☐ Clinical Social Work
☐ Clinical Psychology
☐ Counseling Psychology
☐ Other: _____

<u>Other:</u>
Please indicate your profession: _____

Demographic Information

Identified Gender	☐ Male ☐ Female	**Are you from a:**	☐ Rural Area ☐ Urban Area
Race (check all that apply)	☐ **Black or African American** (e.g. can include those with origins from the Black racial groups of Africa) ☐ **Native Hawaiian or Pacific Islander** (e.g. can include those with origins from Guam, Samoa, and other Pacific Islands) ☐ **White/Caucasian** (e.g. can include those with origins from Europe, the Middle East, or North Africa.) ☐ **American Indian or Alaska Native** (e.g. can include those with origins from North/South/Central America who maintain tribal affiliation or community attachment.) ☐ **Asian** (e.g. can include those with origins from Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam) ☐ **Other**: _____		
Ethnicity:	☐ Hispanic/Latinx ☐ Not Hispanic/Latinx ☐ Other:_____		

Can you answer Yes to any of the following statements? ☐ Yes ☐ No

- You were the first person in your family to attend a college/university.
- You were a 21st Century Scholar or received a Scholarship or Loan for Disadvantaged Students during your degree program.
- You or your family have used a federal or state assistance program (ex: free/reduced lunch, WIC, subsidized housing, food stamps, Medicaid, etc.)
- You live where there were few medical resources (doctor's office/clinic/hospital) at a close distance

Employment Information

Employer Name							
Address:		**City**		**State**		**Zip:**	
What type of unit do you work on?	☐ Critical Care ☐ Emergency Department ☐ Med-Surg.	☐ Observation ☐ Labor | Delivery ☐ Other: _____					
What best describes your place of employment? (Select all that apply)							
☐ Academia ☐ Community health center ☐ Federally qualified health center ☐ Hospital ☐ Local health department ☐ Nonprofit organization (faith based)	☐ Nonprofit organization (not faith based) ☐ Nursing home ☐ Rural health clinic ☐ School-based health center ☐ State health department ☐ Other: _____						

Program Evaluation Instructions

This information will help inform the Georgia SANE Training Project on the current practice of participants and will help guide future training activities.

1.	Do you plan to apply these **CEs** to your licensure/certification/credential requirements?	☐ Yes	☐ No
2.	Do you currently work as a SANE?	☐ Yes (complete Box **2a-b**)	☐ No (Skip to Box **2c**)
2a.	How long have you been a SANE?		
2b.	Approximately how many sexual assault examinations have you completed to date?		
2c.	Have you worked as a SANE in the past?	☐ Yes (complete box **2d**)	☐ No (Skip to box **3**)
2d.	How long ago did you work as a SANE?		
3.	Are you interested in **mentor** opportunities through this project (Either being a mentor or working with one)?	☐ Yes	☐ No
4.	Will your facility allow shadow experiences for new SANEs in your area?	☐ Yes	☐ No ☐ Not Sure
5.	What additional training would you like to have to feel clinically competent?		
6.	Which SANE certification(s) do you plan to pursue?	☐ SANE-A ☐ SANE-P ☐ I already have a SANE Certification ☐ I do not plan to pursue a SANE Certification	
7.	Does your facility **currently** have a SANE program or provide medical forensic examinations for sexual assault patients?	☐ Yes (complete Box **7a**)	☐ No (Skip to Box **7b**)
7a.	Approximately, how many sexual assault medical forensic examinations does your facility do each **month**?		
7b.	Approximately, how many victims are transferred out of your facility for sexual assault medical forensic examination services each **month**?		

8.	If your organization ever **transfers** victims to other facilities for sexual assault medical forensic examinations, please indicate where:	Adults: _____ Pediatrics: _____
9.	What professional organizations do you belong to?	

Appendix D

Nursing Forensic Science Knowledge Exam

CODE NUMBER_____

Directions: Questions 1 - 22 are multiple choice. Only one answer is correct.

1. What is the diagnostic characteristic of a laceration, as may be sustained in a motor vehicle crash?

    a. Bridging tissue
    b. Depth greater than width
    c. Soot deposits
    d. Denaturation of skin proteins around the wound

2. Which patient finding requires the nurse to report suspicion of abuse or neglect?

    a. bilateral contusions of the patella.
    b. unexplained injuries.
    c. anterior rib fractures status post CPR
    d. hip fracture from a reported trip and fall.

3. What should a nurse do with the bloody clothing of a trauma patient?

    a. Place clothing in a bag and save it for the family.
    b. Secure clothing in a plastic evidence bag.
    c. Dispose of clothing in a biohazard bag.
    d. Secure clothing in a paper evidence bag.

4. For what patient is collection of touch DNA likely to be important?

    a. Motor vehicle crash
    b. Gunshot wound
    c. Drowning
    d. Manual asphyxiation

5. When caring for a patient who is dying from a prescription drug overdose what nursing action is **most** important to take to preserve toxicology evidence?

    a. Collect additional blood and urine specimens
    b. Collect hair samples with roots intact

c. Notify law enforcement of overdose and request assistance
d. Ensure first obtained biological specimens are maintained in the lab

6. _____is recognized as the global practice of nursing where healthcare and the legal system intersect.

a. Forensic science
b. Forensic pathology
c. Forensic death investigation
d. Forensic nursing

7. Patients who have suffered a violent trauma are at risk for:

a. Vicarious trauma
b. Post-traumatic stress disorder
c. Continuous victimization
d. Schizophrenia

8. When assessing the gunshot wound of an apparent suicide, which finding should raise suspicions about the circumstances of the death?

a. abraded circular wound with soot deposits of the occipital scalp.
b. soot on palmar aspects of dominant hand.
c. handgun found 8 feet away from body.
d. no suicide note on the scene.

9. With which statement should the nurse start when informing the next-of-kin of a family members' death?

a. "Your daughter was killed today".
b. "I have some difficult news to bring you".
c. "Is there anyone else in the house to be with you"?
d. "I am sorry to tell you that…".

10. Which statement indicates that the nurse understands the social complexity and dangers associated with interpersonal violence?

a. "Why did you go back? Next time you could be dead".
b. "Leave the situation or it will happen again and only get worse".
c. "Only you can make the decision whether and when to leave".
d. "Here is a guideline for a safety plan, when you are ready to leave".

11. A wound on the lower left quadrant of the abdomen is circular with abraded edges surrounded by black substance. As the consulting forensic nurse what action should you do **first**?

a. Obtain vital signs

b. Take photograph of wound
c. Collect clothing for evidence
d. Obtain swabs of black substance

12. A forensic nurse is a member of the interprofessional mortality committee for violence. Which data is the most beneficial for the forensic nurse to prevent violence?

a. Victim demographics
b. Types of injuries victims received
c. Perpetrators characteristics
d. Services sought prior to death

13. What information is the forensic nurse permitted to state as an expert witness in court?

a. Condition of patient, evidence collected, and opinion of what findings reveal
b. Condition of patient, rationale for medical procedures, theory of perpetrator actions
c. Assessment findings, condition of patient, procedures taken to test evidence
d. Opinion of findings, interpretation of evidence analysis, assessment findings

14. Which statement indicates that a nurse understands the various components of forensic nursing theory as it relates to practice? Forensic nursing_____

a. "practice inter-relates nursing science with forensic science, and criminal justice".
b. "combines the art and science of forensic science to court proceedings".
c. "takes the best practices of forensic science and criminal justice system and incorporates these roles into nursing".
d. "is the art of the criminal justice system which includes forensic science practices".

15. A patient with metastatic melanoma presents via EMS unresponsive to the emergency department. A CT scan of the head demonstrates an acute subdural hematoma. The patient dies within 36 hours of admission to the hospital. Family reports no history of acute or chronic trauma. No abuse or neglect are reported. What key data requires the nurse to report this death to the medical examiner's office?

a. unexplained etiology of metastatic melanoma
b. unexplained subdural hematoma
c. death occurred within 36 hours after admission
d. patient unable to provide details about medical history

16. Body diagrams are useful adjuncts to documentation. The forensic nurse is aware that which of the following notations are included on body diagrams:

a. Size, shape, color, interpretation, weapon type
b. Size, shape, location, statements, interpretation
c. Size, shape, color, location, wound characteristics
d. Size, shape, weapon type, location, presence of evidence

17. Two 20 – 30-year-old females die on the scene of a motor vehicle crash and one is taken to the hospital. As the forensic nurse which form of identification will you utilize?
    a. Photo identification comparison
    b. Fingerprint comparison
    c. DNA comparison
    d. Visual identification with close family or friend

18. Which statement indicates the forensic nurse understands correct procedures for collecting and preserving evidence.

    a. Use rubber tipped forceps to collect a projectile and place the projectile into an envelope.
    b. Cut blood-soaked clothing to preserve tire impressions and place into a plastic bag for transportation.
    c. Collect saliva swabs and place into plastic bag for transportation.
    d. Place several non-labeled blood-filled vials into one labeled bag for transport.

19. At what angle does the forensic nurse take overall photographs of the body?

    a. 90 degrees
    b. 60 degrees
    c. 45 degrees
    d. 110 degrees

20. The family requests an autopsy to determine cause of death but the patient's death is not reportable to the medicolegal death investigation agency. What statement implies the nurse understands what options are available to the family:

    a. "We can call the medical examiner and let them know you are requesting an autopsy".
    b. "A clinical autopsy can be arranged through the hospital; however, we will need to have your consent to proceed"
    c. "We do not have autopsy services available, but you can arrange to pay for a private autopsy".
    d. "I understand your wishes; however, there really is no reason for an autopsy. The medical diagnosis will serve as the cause of death".

21. A forensic nurse is aware that without obtaining patient consent for forensic evidence collection or photo documentation, the type of lawsuit would be:

    a. Criminal action
    b. Civil – negligence or non-intentional tort action

c. Civil – liability action
d. Civil – intentional tort action

22. Which information is **most** important for the nurse to provide to a patient involved in intimate partner violence?

a. Resources of how to develop a safety plan
b. Contact information for shelters
c. Police incident number after reporting the crime
d. Discharge instructions about when to return to hospital

Items 23 – 25.

Directions: Read the scenario and state brief rationale for your answer.

23. A patient admitted with a traumatic hip fracture develops pneumonia and acute renal failure and dies 45 days later. Should this death be reported to the medicolegal death investigation agency?

a. yes
b. no

State the rationale in the blank.

_____

24. While establishing an airway of an unresponsive patient, a large bolus of food is removed from the trachea. One week later the patient dies from anoxic encephalopathy. Medical history includes CHF, HTN, and diabetes. Is the patient's death reportable to the medicolegal death investigation agency?

a. yes
b. no

State the rationale in the blank.

_____

25. A 56-year old patient with history of HTN is admitted to the ICU with diagnosis of myocardial infarction. Urinary drug screen tested positive for cocaine. The patient dies 5 days later after three cardiac codes. Is this death reportable to the medicolegal death investigation agency?

a. yes
b. no

State the rationale in the blank.

Items 26 - 28

Directions: Match the wound classifications with the corresponding wound descriptions:

a. Blunt force trauma
b. Sharp force trauma
c. Thermal trauma
d. Gunshot wound
e. Incision

26. ____5cm by 2cm red/blue horizontal oval contusion located at the right upper chest

27. ____5cm by 2cm linear vertical wound at the right upper chest 2cm above the nipple, and 6 cm right of the midline. The wound has clean edges with a sharp upper end and a rectangular lower end.

28. ____Circular defect with a concentric circumferential marginal abrasion with searing of the edges, and a 0.3 cm rim of soot deposition of the right temporal area, 1cm above and 1 cm posterior to the helix. Soot is

Items 29-33.

Directions: Match the injury classifications with the corresponding wound pictures:

a. Sharp force
b. Blunt force
c. Pattern injury
d. Gunshot wound
e. Burn wound

29._____

http://willsavive.blogspot.com/2012/07/

30._____

http://fuckyeahmedicalstuff.tumblr.com/post/11712543403/

31._____

remedies.com

32._____

http://medicinembbs.blogspot.com/2011/08

33._____

http://en.wikipedia.org/wiki/File:

Items 34 - 45
Directions: The following items require **more than one correct answer** for each item. Credit is awarded only if all correct answers are chosen for a given item. Select all that apply.

34. What types of patients qualify for the services of a forensic nurse?

a. _____Motor vehicle crashes
b. _____Overdoses
c. _____Healthcare provider giving wrong medication
d. _____Families upset about patient care
e. _____Interpersonal violence
f. _____Prisoners

35. The forensic nurse knows that the following instruments can create sharp force injuries.

a. _____Broken glass
b. _____Baseball bat
c. _____Edge of paper
d. _____Electrical cord
e. _____Dog bite

36. A pedestrian was hit by a car that fled the scene. The nurse collects the patient's clothing to preserve which possible evidence?

    a. _____Pattern impressions
    b. _____Hair and fiber
    c. _____Glass and paint chip fragments
    d. _____DNA
    e. _____Soot deposits

37. Why is the chain of custody form important?

    a. _____Ensures evidence is accounted for.
    b. _____Provides information about who had contact with the evidence.
    c. _____Serves as a legal document.
    d. _____Serves as significant documentation to use if evidence is left unsecured.
    e. _____Serves as a process for managing law enforcement workloads

38. When conducting a forensic examination, which component(s) is /are performed in addition to the nursing assessment?

    a. _____Focused assessment
    b. _____Focused review of systems interview
    c. _____Photography and body diagrams
    d. _____Detailed injury assessment
    e. _____Collection of forensic evidence

39. A patient is admitted to the emergency department with lacerations, bruising and swelling of her face, arms and thighs, and contusions consistent with finger marks of the neck. The patient recounts that she attempted to fight back but the attacker was too big. It is a priority to collect forensic evidence from which anatomical area?

    a. _____head
    b. _____face
    c. _____hands
    d. _____genitals
    e. _____neck

40. The forensic nurse consults which members of the forensic team for scientific identification of remains?

    a. _____Forensic odontology
    b. _____Forensic entomology
    c. _____Forensic pathology
    d. _____Forensic anthropology
    e. _____Forensic epidemiologist

41. When caring for a patient who has suffered from a violent attack, which information must the nurse document in the chart?

    a. _____Patient response to asking about history of violence
    b. _____Legal authorities notified
    c. _____Family members contacted
    d. _____Referral services offered
    e. _____Specific location and name of services offered

42. An obese 45-year-old male is found dead at home with an ambient temperature of 76 degrees F. He was last seen alive one week prior to discovery. When assessing the body, what findings should the nurse would expect?

    a. _____No rigor
    b. _____Fixed lividity
    c. _____Skin discoloration of abdomen
    d. _____Fly activity with maggots
    e. _____No lividity with skin slippage
    f. _____No insect activity

43. Which instruments can create blunt force injuries?

    a. _____Baseball bat
    b. _____Broken glass
    c. _____Car
    d. _____Paper
    e. _____Sledge hammer

44. The forensic nurse obtains consent for clinical forensic photography. Which procedures are important to follow?

    a. _____Take full length of front at 90-degree angle
    b. _____Provide a copy of photos for law enforcement
    c. _____Take close up photos of wounds with a ruler
    d. _____Include photo of case number/identification number and date
    e. _____Provide a copy of photos for medical records and family

45. An elderly patient with history of non-treated heart failure was admitted for pneumonia. The patient has multiple contusions in various stages of healing across the abdomen and back, rib fractures, and several linear scars on bilateral lower extremities. Which findings indicate that the nurse should consider further investigation of physical abuse?

    a. _____Rib fractures
    b. _____Pneumonia
    c. _____Multiple contusions in areas difficult to explain

d. _____Lack of medical attention

46. Which statement indicates that the nurse understands application of the forensic nursing process when caring for a trauma patient? "My plan is to….

a. _____ "obtain patient consent for detailed injury assessment and make sure tangible evidence is collected"
b. _____ "develop a plan of care with the patient and contact the police for further direction"
c. _____ "assess the patient and provide a list of referrals for follow-up care and community outreach programs"
d. _____ "contact the police and contact the physician for treatment orders"

47. A student nurse provides community education on the topic of interpersonal violence (IPV). The understanding of risk factors for IPV is mastered when which of the following are included in the presentation? (Select all that apply)

a. _____Low self-esteem
b. _____Poly-substance abuse
c. _____Sharing of household chores
d. _____Anger mismanagement
e. _____Assertive communication

48. The nurse assesses a 37-year-old disabled client brought to the emergency department with a rash. Which of the following findings indicate that adult protective services (APS) should be contacted?

a. _____Forehead abraded contusion, and long nails
b. _____Dirty, foul smelling, and flea bites
c. _____Loose fitting clothes, and forehead contusion
d. _____Forehead contusion, and long nails

49. When asked to collect forensic evidence of an unconscious patient, what is **most** important for the forensic nurse to ensure regarding the process

a. _____Availability of a clean room with adequate supplies
b. _____An organizational policy detailing forensic evidence collection of the unconscious is available
c. _____Chain of custody is maintained during the collection of evidence
d. _____The nurse collecting the evidence has appropriate education in the collection of forensic evidence

50. When preparing for an injury assessment and evidence collection, the nurse should inform the patient that:

    a. _____the victim should place all clothing in a bag
    b. _____documentation of findings will be given to law enforcement
    c. _____patient may refuse any part of the forensic examination
    d. _____testimony expectations for victims of violence

Appendix E

Hi Shantee:

Your project sounds interesting! I would be happy to provide you permission to use the instrument (See attached). I only ask that you cite my work in any publications you produce. I would be interested in learning of your findings. Let me know if you have questions.

Best to you,
Stacy

Stacy A. Drake, PhD, MPH, RN, AFN-BC, D-ABMDI
Assistant Professor - Tenure Track

Cizik School of Nursing

at UTHealth | The University of Texas Health Science Center at Houston

6901 Bertner, Suite 593, Houston, TX 77030
713-500-2113 office; 713-500-2171- fax; 713-269-0576 (cell)
Stacy.A.Drake@uth.tmc.edu

From: Shantee Henry <shantee.henry@gcsu.edu>
Sent: Friday, April 12, 2019 12:35 PM
To: Drake, Stacy A
Subject: Permission to use tool

Dr. Drake,

My name is Shantee Henry and I am a DNP student at Georgia College and State University in Milledgeville, Georgia. My project is to measure fidelity of a pilot SANE training program by assessing knowledge, competency, and self-efficacy of our participants. In my research to find a suitable instrument, I found your dissertation. I found it to be extremely helpful and interesting to read. Congratulations on your accomplishment!

As you are aware, finding an assessment tool for a forensic nurse training program is quite the challenge. I am writing to ask permission to use your Nursing Forensic Science Knowledge Exam in my project. It is the perfect tool for what I would like to accomplish. Also, are there other researchers that have utilized your tool? If you are willing to share this document, I would be so grateful. I will be happy to share my final project findings with you if you so desire.

Thank you for your consideration. Any advice for me as I continue this journey is greatly appreciated.

Warm regards,

Shantee Henry

478-454-8780
Shantee.henry@gcsu.edu

Appendix F

GEORGIA SANE PROGRAM

Adult/Adolescent Sexual Assault Nurse Examiner Initial Competency Validation Form

Name: _____ Date: _____

Location: _____ *Evaluator to initial in appropriate column according to rubric*

COMPETENCY	EXCEEDS PROFICIENT	PROFICIENT	BELOW PROFICIENT	COMMENTS
Examination Process				
• Prepares patient for examination -explains informed consent -explains confidentiality -explains medical procedures				
• Demonstrates effective history-taking skills				
• Demonstrates a complete head to toe assessment that is focused, thorough, and systematic				
• Distinguishes trauma and abnormal findings from normal variations				
• Identifies and describes trauma and injuries with appropriate terminology				
• Identifies critical elements of the forensic history and physical assessment				
Evidence Collection				
External				
• Demonstrates the following evidence collection skills				
- Disrobing, clothing collection				
- Buccal swab				
- Oral swab				
- Body surface swabbing				
- Toluidine Blue application				
• Describes packaging of evidential materials and chain of custody				

COMPETENCY	EXCEEDS PROFICIENT	PROFICIENT	BELOW PROFICIENT	COMMENTS
Internal				
• Demonstrates visualization techniques:				
- Labial separation				
- Labial traction				
- Hymenal assessment				
- Speculum assessment of vagina and cervix				
- Injury identification				
- Specimen collection				
Interpretation				
• Synthesizes exam findings and evidence to anticipate court proceedings				
• Describes plan of care specific for case				
Documentation				
• Describes elements of documentation in concise manner using correct terminology				
• Demonstrates appropriate photo-documentation				
- Overall photo				
- Orientation				
- Close-up				
- Close-up with scale				
• Demonstrates correct photography techniques: -90-degree angle -clear photos -photographs hands against background				
• Describes documentation of photos				

_____ _____

Name of SANE (print and sign) Evaluator (print and sign)

_____ _____

Evaluator (print and sign) Evaluator (print and sign)

_____ _____

Evaluator (print and sign) Evaluator (print and sign)

Appendix G

Practical Grading Rubric for Forensic Physical Evaluation and Evidence Collection

Expectations/ Components	Exceeds Proficiency	Proficient	Below Proficiency
Examination Process	• Examination is focused, thorough and systematic • Consistently recognizes trauma and distinguishes from natural disease • Consistently, systematically identifies trauma in focused approach	• Examination is mostly systematic, through, & focused • Distinguishes trauma from natural disease • Identifies most trauma	• Examination is not focused or systematic • Fails to recognize trauma or distinguish from natural disease • Fails to identify trauma
Evidence Recognition, Collection, and Preservation	• Consistently differentiates evidence from non-evidence • Consistently recognizes evidence • Consistently, systematically, and, correctly collects evidence • Consistently, systematically, and correctly preserves evidence • Maintains chain of custody at all times	• Usually differentiates evidence from non-evidence • Recognizes most major evidence • Collects most evidence correctly • Preserves most evidence correctly • Maintains chain of custody	• Fails to differentiate evidence from non-evidence • Fails to recognize major evidence • Fails to collect major evidence correctly • Fails to preserve major evidence correctly • Chain of custody is broken
Interpretation	• Synthesizes exam findings, and evidence to anticipate court proceedings • Develops diverse theories regarding injury patterns and recognizes limits of interpretation • Consistently interprets injuries	• Analyzes most of exam findings and evidence • Provides theories of injury patterns for most injuries • Interprets causes of most injuries	• Fails to appraise findings • Fails to theorize about injury patterns • Fails to interpret or recognize limits of interpretations
Documentation	• Consistently documents all evidence collection process • Consistently describes all injuries using correct terminology • Consistently, systematically identifies and documents trauma in focused approach • Documentation is by multiple methods, accurate, and concise	• Documents most evidence collection process • Describes most injuries using correct terminology • Usually documents in systematic, and focused approach • Documentation by multiple methods	• Fails to document evidence collection process • Fails to describe injuries using correct terminology • Documentation is not systematic, accurate or concise • Fails to document using multiple methods

Appendix H

ANE-SANE Confidence/Self-Efficacy Instrument

Unique Code Number: _____ Date: _____ Clinical Skills (circle one) T1- Pre T2 - Post

Rate your confidence level for each question by placing a √ in the appropriate column.

		Not at all confident		Slightly confident		Moderately confident		Very confident		Extremely confident	
	Question	1	2	3	4	5	6	7	8	9	10
1	When you consider your ability to obtain historical data from the patient, how do you rate your confidence?										
2	When you consider identifying injuries in a forensic exam, how do you rate your confidence?										
3	When you consider your ability to photograph injuries, how do you rate your confidence?										
4	When you consider your ability to collect forensic evidence, how do you rate your confidence?										
5	When you consider your ability to perform a forensic exam, how do you rate your confidence?										
6	When you consider your ability to maintain chain of custody, how do you rate your confidence?										
7	When you consider your ability to testify in court, how do you rate your confidence?										
8	When you consider your ability to identify strangulation injury, how do you rate your confidence?										

Appendix I

Budget for 3-day Clinical Training

Initial Supplies/Costs		
ITEM	AMOUNT	COST
Rechargeable Light source	4	1,720
EVA colposcope with stand	2	9,680
DSLR camera	2	4,280
Locked rolling cart	2	1,255
Fetal monitor	2	1,044
Pulse oximetry	2	122
Swab dryer	1	440
Blue Max light kit	2	470
Pelvic Model	2	1,718
		Total: $20,729
Additional Costs for Each Training (based on 15 participants)		
Food		500
Lodging (or mileage >50 miles)		4,500
Gynecological Teaching Assistant (GTA)	5	5,600
Sexual Assault Evidence Kits	60	300
Evidence collection bags	30	60
Swab protectors	250	80
Speculums	65	120
Gloves, gowns, drapes, goggles		30
Office supplies (printing, notebooks)		50
		Total: $11,240

Appendix J

Table 3
Cohort 1 – Qualitative evaluation of training.

Participant	Response
Question 1: Tell me what it was like to participate in the clinical skills portion of the program.	
003	Personally, I felt that there was a learning curve to interacting with the standardized patient. I thought the interview process, followed by the actual physical assessment was a great way to practice interacting with an actual assault patient.
004	Fantastic! I loved the experience and enjoyed learning about this.
006	I liked the hands on portion of the program, especially working with the standardized patients.
Question 2: What was your impression of the location and instructors?	
003	The instructors were amazing! Everyone was very receptive, enthusiastic and genuinely cared about the success, not only of the course by the individual students. The location was awesome, and provided state of the art equipment, and incorporated those in the learning experience.
004	Location was excellent and instructors were amazing! Lots of expertise that was shared and they really wanted us to succeed.
006	Great instructors and the location was great as well. Everyone was open and willing to explain everything so that we could learn.
Question 3: How do you feel about the content presented?	
003	The content was presented in a way that was easy to relate to and follow.
004	Lots of content. I felt like they covered everything that was needed.
006	Good content. Thorough.
Question 4: What are your thoughts about the equipment and supplies used?	
003	State of the art equipment, which made it a much better learning experience.
004	The equipment used was great. Good technology. Would have liked to have seen how to do photography.
006	Excellent facilities and equipment.
Question 5: What did you like about the clinical skills training?	
003	Although there was a learning curve, the standardized patient! It provided the opportunity to interact with an individual and get real-time responses or reactions.
004	The standardized patients; working with them and getting guidance from great instructors.
006	The standardized patients, ability to practice and ask questions. Organized well.
Question 6: What did you dislike about the clinical skills training?	

003	I would have liked a little more time documenting and/or photographing various types of injuries.
004	Need more information on court testimony and photography.
006	I felt like some topics need to be added: photography and working with a camera; courtroom experience and how to testify.

Appendix K

Table 4
Cohort 2 – Qualitative evaluation of training.

	Participant	Response
Question 1: Tell me what it was like to participate in the clinical skills portion of the program.		
	7	Having the GTAs is a wonderful experience
	11	I found it extremely beneficial. It was a great way to tie everything I've learned together
	12	
	14	
	15	Very good. Long…but good
	16	Everyone was enthusiastic and eager to share
	17	Loved the interaction with the presenters and the enthusiasm, knowledge and passion
	19	It was nice, but wish we had a photography lesson or being able to take pictures
Question 2: What was your impression of the location and instructors?		
	7	Easy and convenient location. Instructors are passionate and knowledgeable
	11	Fantastic! Loved the class
	12	
	14	
	15	Good. Very nice and knowledgeable
	16	Convenient for all that attended
	17	Location was reasonable
	19	Very educational, instructors are experts in their field
Question 3: How do you feel about the content presented?		
	7	Very informative; Thankful for resources
	11	Very pertinent, well put together
	12	
	14	
	15	Excellent content. Would've liked slides beforehand
	16	Well delivered with sufficient time for questions and explanations
	17	The info was great very informative
	19	interesting
Question 4: What are your thoughts about the equipment and supplies used?		
	7	I would've liked more practice with cameras and completing photography.
	11	Very appropriate for course
	12	
	14	
	15	Great to have
	16	Would like more time with photography practice
	17	There was some equipment I have never seen before

	19	realistic
Question 5: What did you like about the clinical skills training?		
	7	GTAs expertise in completing physical exams
	11	Loved being able to work with real patients and get feedback from SANE experts
	12	
	14	
	15	All was good
	16	Enjoyed being able to perform multiple speculum exams with GTAs
	17	The interaction and learning
	19	Actual humans acting as patients
Question 6: What did you dislike about the clinical skills training?		
	7	I would've liked having someone complete the exams (presented) prior to my completing an exam – that made it more difficult to complete my exam, having to go back and add.
	11	Really loved it. Would provide presentations beforehand. Plus outline of flow of exam
	12	
	4	
	15	Would've liked to have documentation examples and for it to be a little more organized
	16	nothing
	17	
	19	Unable to practice photography and dye

Appendix L

Table 4
Cohort 3 – Qualitative evaluation of training.

	Participant	Response
Question 1: Tell me what it was like to participate in the clinical skills portion of the program.		
	25	Good to practice on a live person, more than one time. Good informative info presented in sessions.
	26	Amazing! It was busy and exhausting, but definitely worth it!
	28	I enjoyed the hands on experience
	30	I was very nervous for the first day but the next day was much better.
	31	So good!
	34	At first it was very nerve-wracking experience, but as the days and training went on it became easier.
	36	It was a wonderful experience. I enjoyed it. Will help me greatly in clinical practice
	37	It made me very nervous almost as nervous as when I took boards – but it was so helpful. The feedback was awesome! And the nerves have begun to subside toward the last exam.
	38	This training was intense. We received so much information in such a short period of time it was overwhelming. I didn't know we would be performing exams on real people, so that was terrifying, but extremely helpful.
	39	Lots of information given in 3 days. Informative. Interactive. Educational. Overwhelming information give in one 9-hour day (x 3 days). Appreciative of GTAs, facilitators, and their time given. Maybe less people in class setting (smaller class size).
	40	I really enjoyed the skills portion
	41	I enjoyed this section. GTAs and facilitators were very helpful and knowledgeable. It was scary at first but much more confident by the end.
	43	I was thankful for the participants of exams. I would have like to practice photograph of a mannequin
Question 2: What was your impression of the location and instructors?		
	25	Instructors were very knowledgeable, location was good
	26	It was an inviting location. The instructors were truly exceptional
	28	I thought the instructors were experts and locations were ideal
	30	It was very convenient in location. The instructors were very friendly and accommodating
	31	All good and so helpful!
	34	The location and instructors were great
	36	All excellent
	37	Fantastic! Every instructor added something new and "food for thought". I appreciate all the time spent preparing and doing and I

		know you continue to work when we leave. Thank you! Location was wonderful!
	38	Everyone was amazing. Location was fine.
	39	Location and instructors were wonderful. Campus and classrooms, environment was great for learning and teaching.
	40	Very convenient
	41	Instructors were wonderful. Building was cold.
	43	Nice location. Instructors friendly and easy to talk to
Question 3: How do you feel about the content presented?		
	25	Content was good/topics that we need to know that relate to patient care/exams/injuries
	26	Spot on!
	28	It was thorough and detailed
	30	Content was extensive but very well presented
	31	excellent
	34	The content was great and presented in a fashion that made it easy to understand
	36	Good, very helpful
	37	Added well to the didactic program. Since it was a 3-month period since finishing the didactic, it helped remind me of that teaching
	38	Content was relevant and abundant. It's a lot to fit into 3 days, but it was all useful.
	39	I've learned a lot, I'm slightly overwhelmed, good content; wish some things were left off (later training optional) so more time could be spent on how to "do a forensic exam" start to finish.
	40	Concise and practical
	41	A lot of content covered but well presented. I learned a lot and feel more confident about doing exam.
	43	Very informative
Question 4: What are your thoughts about the equipment and supplies used?		
	25	Supplies were good very real life supplies we'll see in out practice.
	26	From what I could tell, they were appropriate
	28	The equipment and supplies were appropriate
	30	I was glad that we4 were able to see what a real rape kit was like
	31	helpful
	34	none
	36	All relevant to practice
	37	Very "up to date" - fantastic
	38	All equipment was adequate
	39	Equipment is great. Supplies need to be more on hand (evidence collect kits) keep it consistent, either swab or don't, and don't mix/match. I understand supplies are hard to come by so maybe one kit gets used as an example and we just use one swab collection, leaving the rest as surplus.
	40	Need more cameras

	41	All equipment was good. Nice to use to demonstrate use
	43	I would have like to have used the colposcope. All other equipment and supplies were helpful
Question 5: What did you like about the clinical skills training?		
	25	Appropriate amount of time for clinical skills, nice to be able to take breaks/have downtime during the day
	26	The "realness" was the biggest help
	28	The hands-on training
	30	I liked the feedback from instructors and clinical patients
	31	Being able to do real exams on the GTAs
	34	I liked that we were able to practice on live patients.
	36	GTA students, presenters from different areas
	37	As nervous as it made me, the hands on
	38	I liked all of the instructors. Everyone was so patient and willing to answer all my questions. I loved that everyone made themselves available after this clinical training.
	39	Live models (GT). I appreciated them letting us do real exams, and practice
	40	Very hands on and enjoyable
	41	Scared at first. Everyone was so support and helpful. Training was great
	43	GTAs willingness for exams
Question 6: What did you dislike about the clinical skills training?		
	25	Lessons could be longer/have a follow-up clinical weekend; maybe pick and choose sessions to attend
	26	N/A
	28	N/A
	30	I would like to see more start to finish exams
	31	Would have liked more time for court/testifying, injury documentation, photography
	34	The legal aspect of the training could have been lengthened.
	36	none
	37	none
	38	I wish we had more time!
	39	The miscommunication of instructors with (med hx do/don't, straight to exam). Some GTAs were abrasive, brash-maybe for feedback or instructing purposes-they could come out of character and give positive feedback to us (in a nice way).
	40	Long days
	41	Would have been nice to stand in on assessment and exam from beginning to end.
	43	Every GTA was saying something different and there was no consistency.